

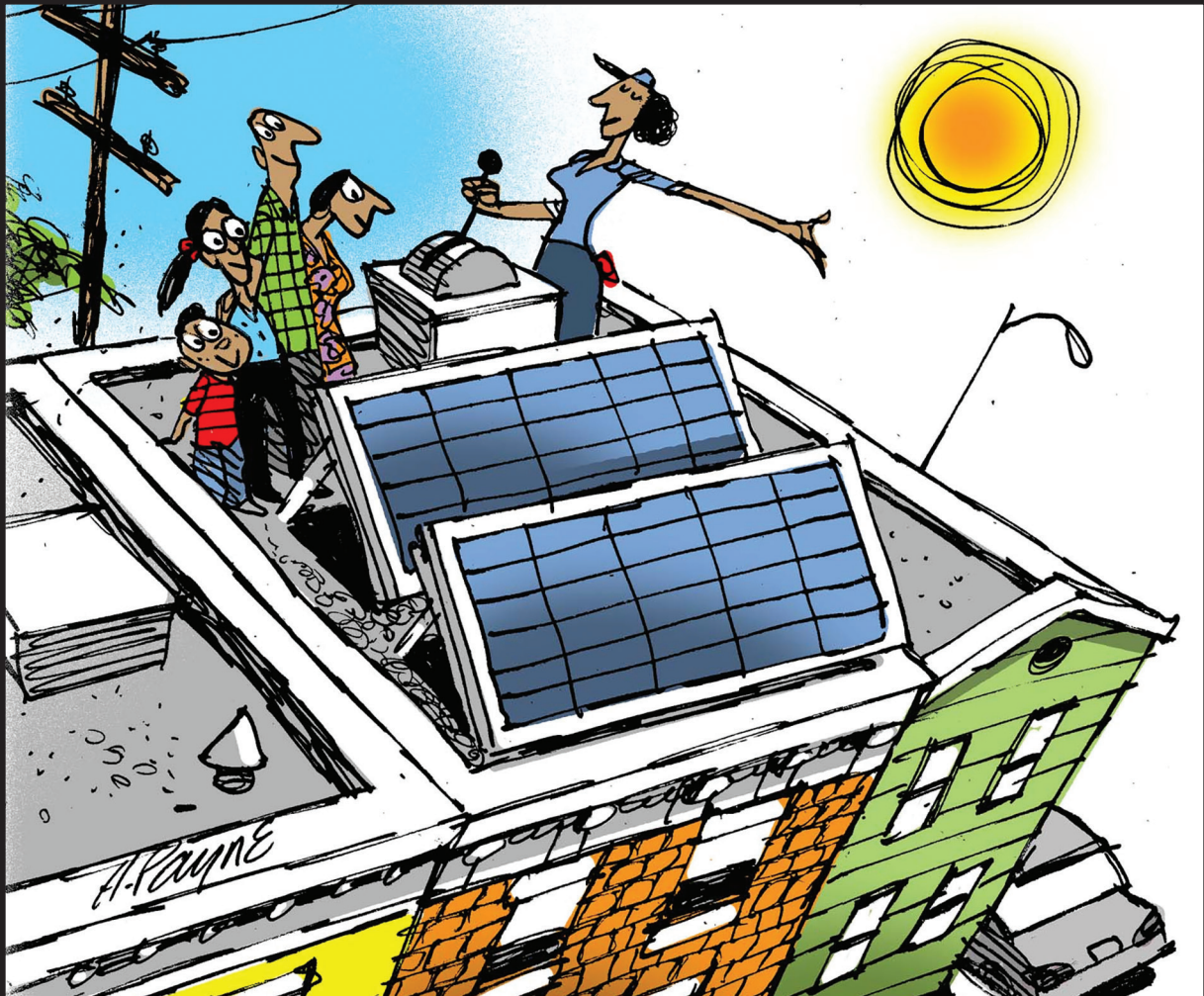
A Black Community's Toxic Legacy

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The Circular Economy Runs Through Basel

But revisions to the hazardous waste convention are needed to manage new sustainability challenges, and the U.S. needs to adopt implementing legislation and thereby become a party



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THE Basel Convention has gained newfound relevance over the past year. The convention controls and in some instances prohibits trade in a growing universe of recyclable materials affecting key sectors of the economy, including electronics and communications, electric vehicle batteries, and plastics. Adopted thirty years ago to stop the unregulated flow of hazardous wastes to developing countries, the treaty has emerged as the main international legal framework governing the circular economy. Following a decision to extend the convention to cover most trade in plastic wastes, parties are now weighing further amendments that will either slow or accelerate a more circular and sustainable economy. What role the United States will play in this transition remains an open question.

The convention has been ratified by 188 parties, including all major U.S. trading partners. Although obligations under the convention generally align with U.S. law, and although the Senate granted its advice and consent to ratification of the original convention, the United States is not yet a party. Implementing legislation is needed to fill gaps in law that prevent the United States from meeting all of the treaty obligations.

U.S. business and NGO stakeholders have previously been ambivalent about ratification. But the growing risk of new barriers to trade in used products and materials for recycling is prompting the business community to consider the benefits of ratification. NGOs focused on reducing marine plastic litter also see U.S. implementation of the convention as an im-

portant step. This renewed interest may prompt the Biden administration and Congress to take the actions needed to bring the United States into the treaty.

Growing interest among governments, sustainability advocates, and the business community in the circular economy has focused new attention on the convention and its future. A recent UN Economic Commission for Europe report notes that the annual global extraction of raw materials has increased from 27 to 92 billion tonnes since 1970. During that time, global CO₂ emissions have increased by 90 percent. The resulting pressure on natural systems and biodiversity is immense. The move to a more circular economy presents an opportunity to mitigate these impacts, minimize waste, and generate a multitude of environmental and societal benefits.

Transitioning to a circular economy requires a systemic shift in how society conceives of products throughout all phases of their lifecycles, including design, production, use, and recovery. Extending the useful life of products through repair, refurbishment, and remanufacture avoids most of the embodied material energy and emissions that would otherwise derive from the extraction and processing of raw materials for new products. Efficient and environmentally sound recovery of metals and rare earth minerals increases resource efficiency and supply chain resiliency for critical sectors of the economy. By extending the useful life of products, recovering resources embedded in products, and minimizing waste, we can continue deriving value from products while minimizing the financial, climate, and environmental impacts associ-

ated with resource extraction and waste disposal.

But many of these material recovery and product reuse opportunities cannot be fully achieved without modernizing the Basel Convention. An updated international legal framework is needed to ensure protection of human health and the environment, enhance transparency, and accelerate sustainable product and materials management.

THE convention entered into force in 1992 and has been ratified by 187 parties and the European Union. Although the United States signed the agreement, it remains a non-party.

The convention imposes robust controls, documentation, and various trade bans on covered wastes shipments. It generally takes a one-size-fits-all approach to controlling international trade in wastes. The controls are nearly uniform across a wide range of covered wastes, even as parties extend the scope of the agreement to cover relatively low-risk non-hazardous wastes.

The convention defines materials that qualify as “wastes” by reference to disposal and recovery operations in Annex IV. Wastes that contain a constituent or waste stream listed in Annex I are presumptively hazardous unless the waste does not exhibit a hazardous characteristic listed in Annex III. Parties may notify additional hazardous wastes under national legislation that are also covered wastes. To ease implementation, the parties adopted two waste lists that further describe covered wastes. Annex VIII lists wastes presumptively classified as hazardous. Annex IX lists presumptively non-hazardous wastes that are outside the scope of the convention and therefore more easily traded. Annex II lists non-hazardous “other wastes” that warrant special consideration. Until the recent amendment adding most plastic wastes, this annex covered only household wastes and incineration residues from household wastes.

The convention imposes cumbersome prior informed consent procedures among the exporting, importing, and transit countries. Depending on the countries involved, these authorizations may take a year or more to be approved. Covered shipments are also subject to contracting requirements, financial assurance, and shipping documentation. Countries are obligated to allow shipments to proceed only upon a determination that the wastes will be managed in an “environmentally sound manner.” These controls help parties ensure wastes are not exported to countries or facilities that do not have the capacity to safely and re-

sponsibly manage the wastes. But the controls also result in a high degree of legal and logistical uncertainty. Even under the best of circumstances, the convention imposes significant friction on the environmentally beneficial trade in valuable materials for recovery.

A further risk to circular economy goals arises from the numerous trade bans imposed on various shipments under the convention. Foremost for the United States is a non-party trade ban that in most instances prohibits parties to the convention from trading in covered wastes with the United States.

A further constraint is the so-called “Ban Amendment.” Adopted in 1995, but only recently in force, the amendment prohibits Organization for Economic Co-operation and Development countries (and other countries listed in Annex VII) that have ratified the amendment from exporting “hazardous wastes” to non-OECD countries.

Under Article 11, parties may enter into agreements or arrangements for trade in wastes that, among other things, allow trade with non-parties. The United States has maintained responsible trade in covered wastes with Canada and Mexico (for both imports and exports), and has also concluded “import only” agreements that allow imports of hazardous wastes from Costa Rica, Malaysia, and the Philippines. Trade between the United States and other OECD countries also occurs through an OECD Decision, although recent disagreements on the types of controls that should be imposed on plastic wastes raise questions about the viability of the decision to preserve trade in recoverable materials.

In 2019, the parties adopted amendments making most plastic waste subject to Basel controls as “other” waste. The amendments took effect on January 1. There have already been impacts on global trade, as countries and businesses struggle with obtaining the approvals to move plastic waste for recycling.

With limited exceptions (the scope of which remains to be clarified), most plastic waste streams are now presumed to be controlled under a new Y48 listing in Annex II covering “other” wastes. They are subject to full control procedures, including prior informed consent, or PIC, and the ban on trade in waste with non-parties. Waste streams of certain plastics can still move under Annex IX as presumptively non-hazardous. Specifically, a limited exception applies for certain “one polymer” streams of certain categories of plastics (i.e., non-halogenated polymers, resins and other thermoset plastics, and fluoropolymers). This exception also applies for mixed waste fractions of clean polyethylene,

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A Convention That Is Perpetually Reborn

Multilateral environmental agreements have a tremendous capacity to adapt to new challenges. We have seen it with the Montreal ozone protocol, now tackling one of the most threatening greenhouse gasses. And I have witnessed it since I joined the secretariat of the Basel Convention in 2014. Why is that?

For one, we are facing an issue that is here to stay. Wastes are inevitable byproducts of our unsustainable production and consumption patterns. Although waste management is increasingly on people's minds, hazardous waste has only increased over time. But the good news is that the Basel Convention has a lot to offer to protect human health and the environment from the negative impacts of hazardous waste. These impacts result from biomedical and healthcare wastes and other wastes that the international community has unanimously agreed require special consideration. Plastic wastes that cannot be easily recycled are a recent example.

At the heart of the convention is a strict control — not a ban — of transboundary movements of hazardous wastes and other wastes. In a nutshell, only parties with the capacity and willingness to manage such wastes in an environmentally sound manner should receive such wastes, and it is up to each party to take its own informed decision as to whether to accept or not the wastes, and under what conditions.

If I take as an example the Plastic Waste Amendments adopted in 2019, all plastic waste and mixtures of plastic waste generated by parties, with a few exceptions, are now subject to the prior informed consent procedure, unless they are destined for recycling in an environmentally sound manner and are almost free from contamination and other types of wastes. The procedure en-



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“With new challenges come new opportunities. The Basel Convention continues to stand the test of time and to reinvent itself as the only global legally binding framework shaping the future of waste management”

sures that each destination country for potential exports of plastic waste is alerted to such shipments and can accept (with or without conditions) or refuse them.

By promoting responsibility and traceability, this creates the necessary conditions for the global trade in plastics waste to become more transparent and better regulated. It also provides a powerful incentive for the private sector, governments, and other stakeholders to strengthen capacities for recycling and where possible reuse, therefore contributing to a circular economy. Moreover, it will help create jobs and economic opportunities, not least by incentivizing innovation, such as in the design of alternatives to plastics and the phaseout of toxic additives.

Another key to the success of the Basel Convention is the longstanding practice of parties who engage at the global level with a broad range of stakeholders to address the minimization, trade control, and environmentally sound management of critical waste streams. Begun in 2002 with the Mobile Phone Partnership Initiative, multistakeholder platforms have since been established to tackle computing equipment, household waste, and plastic waste. These partnerships allow participation on equal footing by civil society, industry,

academia, non-party states such as the United States, and other entities whose voices will shape and whose actions will drive required changes.

On the heels of the Plastic Waste Amendments, three new amendment proposals will be considered by the Conference of the Parties in 2022. The proposal by the Russian Federation is to set a 30-day period for the state of import to review and reply to a proposed transboundary movement.

The two other amendment proposals were specifically put forward with the objective of contributing to a circular economy, among other objectives. The proposal by the European Union focuses on the waste versus non-waste issue and thus aims to revamp Annex IV. The proposal by Ghana and Switzerland aims at ensuring that all e-waste moved across borders, be it characterized as hazardous or not, will be subject to the prior informed consent procedure and directed to environmentally sound management with state-of-the-art technology.

With new challenges come new opportunities. The Basel Convention continues to stand the test of time and to reinvent itself as the only global legally binding framework shaping the future of waste management.

polypropylene, and PET plastic, provided that they are destined for separate recycling streams in the destination country, and almost free from contamination. The quick drafting, adoption, and implementation of these amendments have created significant uncertainties for parties and stakeholders trying to move plastic wastes for recycling.

A recent bilateral arrangement between Canada and the United States allows for continued trade in plastic and other non-hazardous wastes without the application of PIC and other controls. The arrangement is also future-proofed against the potential addition of other non-hazardous wastes to the list of “other” wastes in the Basel Convention.

The agreement with Canada took place against the backdrop of failed negotiations to update the OECD Decision to reflect the recent changes to the convention. Members failed to reach consensus on whether and how to amend or update the decision, and to reach further consensus on the legal implications of this outcome. In the end, OECD member countries that have adopted the OECD Decision will each have their own interpretation of applicable requirements, giving rise to uncertainty about trade in plastic wastes for recycling with the United States. They will review the situation again in 2024. The breakdown of the OECD negotiations increased pressure on the United States to negotiate separate Article 11 agreements, such as that with Canada, with other countries to allow for the trade in plastic wastes.

By raising costs on the transboundary movement of plastics for recycling — and banning trade flows from the United States — the amendments may affect the ability of companies to fulfill ambitious circular economy commitments, which depend on ready access to recycled plastics for use in new products. Basel controls will complicate the flow of feedstocks of plastic waste for new chemical recycling facilities that are starting to come online now. They offer the prospect of significant increases in plastic recycling infrastructure. The amendments have also resulted in backlogs of plastic waste in countries that have historically exported their plastic wastes and may not have national recycling infrastructure for properly managing these wastes.

THE parties are also considering further expansion of the convention. The European Union has proposed an amendment that would widen the scope of the convention by targeting products, equipment, and other materials shipped for repair, refurbishment, and

reuse. They propose to add a new waste operation under Annex IV. While the EU has indicated that it only intends for its proposal to cover used products that have already become waste (e.g., brought to a community waste collection point), the language as drafted makes it likely that many governments will default to a waste classification for most used equipment and products managed for repair, refurbishment, and reuse.

This proposal marks a departure from current practices and interpretations of the convention. Under technical guidelines adopted on an interim basis, used electronics destined for repair, refurbishment, reuse, or failure analysis are not “waste” so long as they meet certain handling and documentation requirements that demonstrate the equipment is destined for legitimate reuse rather than recycling. The guidelines were negotiated to clarify that the convention’s controls on waste shipments should not capture warranty and other repair operations that extend the life of equipment and reduce the generation of waste. In adopting the guidelines on an interim basis, the parties enabled countries to pilot the criteria while aligning national guidance and regulations with a more consistent approach to waste classification.

As drafted, the EU proposal would conflict with the guidelines, increase legal uncertainty, and undermine circular economy initiatives seeking to extend the useful life of used products. Read in combination with the proposal to control all e-waste (see below), the EU amendment would likely prompt many countries to apply waste import and export controls on shipments of used products destined for repair and refurbishment. Manufacturers in the United States would face the additional burden of the non-party ban on imports or exports of products and equipment intended for repair, refurbishment, and remanufacturing.

Building on the plastics amendment precedent, Switzerland and Ghana have formally proposed to list all non-hazardous electronic waste as “other” waste under Annex II. Currently, non-hazardous e-wastes are listed in Annex IX and are traded outside the convention’s controls. Companies designing products that reduce the use of hazardous constituents are often able to manage these end-of-life products for recycling with minimal trade controls. If adopted, the proposed amendment would subject all e-waste to extensive prior informed consent, documentation, financial, and other requirements, as well as the ban on trade with non-parties.

Parties have had limited opportunities to discuss this proposal to date but a number of governments

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Circular Economy and Global Governance

ONLY 20 percent of global electronic waste is recycled. At the same time, the International Energy Agency predicts that to get to net-zero greenhouse gas emissions by 2050 we'll need six times more mineral inputs by 2040 than we use today. One of the biggest stocks of these resources is in our old electronics. Current practices often mean these minerals are going to waste.

To effectively meet this demand for minerals, we need to put in place a system that can take back used equipment for repair and recycling. Doing so will require running reverse supply chains at scale.

For success at closing the loop here, we need to bear in mind three things. First, the reverse supply chain system must be responsible — not putting people or the planet at risk, and absolutely no dumping on developing countries. Second, it must be economically viable — so prohibitive costs don't slow adoption. Third, it needs to be a global enterprise — recovering many metals is a capital-intensive, specialized business with few facilities around the world.

The Basel Convention has been vital in stopping egregious e-waste dumping and providing much-needed international governance principles. However, reverse supply chains remain inefficient. From our research we have found that reverse logistics for used electronic products are between 31-190 percent more costly than outbound logistics for new products.

Over the last year the World Economic Forum worked with the World Business Council for Sustainable Development to bring together other global organizations and the biggest players in the electronics industry in a Circular Electronics Partnership. In this effort, we interviewed many companies trying to build a reverse supply chain to



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"To effectively meet this demand for minerals, we need to put in place a system that can take back used equipment for repair or recycling. Doing so will require running reverse supply chains at scale"

help create a roadmap for the next decade.

The insights revealed key areas where intervention is needed. To start, at a political level, governments must broaden their conversations and invite new voices. Discussion should expand from waste management to explore the economy-wide transformations possible with the circular economy. Ministries of trade, economy, and environment need to be at the table. The conversations also must include a full range of external stakeholders.

Efforts should also be made to connect convention conversations with broader discussion around the circular economy at the World Trade Organization. As the role of critical materials in decarbonization becomes more apparent, it is time to bring in the climate convention and the Paris Agreement. These broader dialogues could happen in capitals or other forums if not on the convention floor itself.

The prior informed consent procedure is an important process in the convention. But the system is complex, adding significant cost to legitimate shipments of waste for recycling. Given existing protocols, the process can run into the tens of thousands of dollars, with delays spanning into months or years.

More flexibility can also ensure reverse supply chains flow smoothly. Currently, the PIC procedure requires transit countries to consent to e-waste shipments. Many don't, however, as they have very little stake in the process. Transit countries could, instead, have the ability to opt-in to block shipments. If a country does not block a shipment after notification, it should be considered that the country has given its tacit consent.

As used equipment flows often follow a path of least resistance, flows toward formal recovery facilities in developed countries should be encouraged. Green corridors could channel equipment from pre-approved collectors or processors to pre-approved and certified recovery facilities in developed countries under a trusted trader system.

As the Basel Convention goes into its 15th Convention of the Parties this year, it is a perfect moment to reflect on its numerous successes and also reimagine its position as the natural forum for global governance of the circular economy. With overall material demand predicted to double by 2050, governments need a space to be able to come together and put in place the architecture that will help us reach our collective goals.

have noted the risk of unintended consequences. If adopted, it would upend established trade flows for non-hazardous e-waste and diminish opportunities for environmentally sound and materially efficient recovery. Furthermore, the proposal could have impacts beyond e-waste shipped for recycling and disposal. While not directly called for in the proposal, parties may begin controlling used electronics shipped for repair and reuse in addition to electronic waste shipped for recycling and disposal. This could sow further uncertainty and create challenges, particularly as circular economy goals require moving more electronics and other products across borders for repair, refurbishment, reuse, and recycling.

As the convention's scope expands, attention has turned to the potential for improvements to the PIC system that could facilitate trade in controlled waste. Russia has submitted an amendment proposal aimed at establishing a consistent time limit to responses for import notifications. Under the current system, there is no deadline by which a party must respond to a notification. Under the Russian proposal, parties would be required to respond within 30 days. While this would still require consent, it would streamline a process that can take more than a year today. Parties unable to meet this deadline, however, would likely face no consequences based on the current proposal. Work is also underway among governments to explore new electronic notification and documentation platforms that hold the promise of expediting shipments in the future.

These developments have driven some stakeholders to reexamine whether the United States should become a party. In the past, the State Department and EPA have taken the position that several legislative changes to the Resource Conservation and Recovery Act are needed to provide sufficient domestic authority to fully implement the convention. The minimum changes include expanding the wastes subject to import and export controls under U.S. law, including the control of non-hazardous "other" wastes. They would give EPA authority to stop exports of controlled waste "when there is reason to believe that the wastes in question will not be managed in an environmentally sound manner." The agency also needs authority to implement the obligation to order the re-importation

of wastes in the event of illegal trafficking or mismanagement. Several attempts to advance implementing legislation have been proposed in the past under both Republican and Democratic administrations, but all failed to gain traction. In recent months, there has been renewed attention to the need for implementing legislation.

HAVING represented key sectors of the U.S. business community on the Basel Convention and related agreements over several decades, we see several pathways for modernizing the convention to ensure it delivers on its core focus of ensuring environmentally sound management of wastes while also furthering a more circular economy. Our recommendations also reflect our experience helping companies scale up global operations for the collection, repair, refurbishment, reuse, and recycling of electronics, EV and other batteries, photovoltaic panels, and plastic products.

First, the United States should join the convention. Party status would both resolve the challenges posed by the non-party trade ban as well as ensure U.S. participation in negotiations about amendment proposals as a full party, rather than as an observer. As a non-party, the United States has seen its ability to advance environmental or economic policy goals diminish.

U.S. companies working to advance more circular business models are uniquely disadvantaged. Companies seeking to scale up global product take-back and recycling programs, promote product reuse, increase repair or remanufacturing, or develop closed-loop business models face an increasingly complex and uncertain operating environment. As the parties move to control a larger universe of low-risk materials, current and future operations involving the recovery of used products or components needed to meet ambitious circular economy or recycled content goals will be disrupted. Supply chain resiliency will also be diminished. As the Biden administration makes investments in renewable energy, electric vehicles, and broadband technologies, the safe and environmentally beneficial recovery of electronics, plastics, solar panels, and EV batteries should be central to a more secure supply chain for critical materials.

There are several pathways for modernizing the Basel Convention to ensure it delivers on its core focus of ensuring environmentally sound management of wastes while also furthering a more circular economy

Ratification would bring substantial environmental benefits. EPA would have new authority to prevent waste exports suspected of presenting an unacceptable risk to human health or the environment even where the receiving country has consented to such shipments. Companies operating outside the United States with limited local options for proper waste disposal will have the option of sending wastes and valuable recyclables back to the United States for management. Exports of hazardous wastes to non-OECD countries would be subject to stringent controls or prohibited in most instances depending on how Congress and the administration approach the Ban Amendment. The United States would also be better positioned to contribute to the circular economy.

Second, with or without the United States, parties should move quickly to align the convention's requirements with the demands of a more circular and sustainable economy. For example, parties should move away from the one-size-fits-all approach that places all wastes — regardless of the risks posed during collection, storage, transportation, and recovery — in the same category as the industrial toxic waste that drove drafting of the original treaty. In many instances, the convention's robust controls and trade bans are appropriate and necessary.

But for a large class of wastes in Annex II and even some wastes falling under Annex VIII (presumptively hazardous), proper management can be assured at the same time that environmentally and economically beneficial trade is facilitated through a combination of updated requirements. These include the use of pre-approved recovery facilities that meet a high level of environmental performance, expedited electronic notice and consent procedures covering multiple shipments, and greater transparency and accountability. Materials critical to resilient supply chains or circular business models could be managed through a network of pre-approved, pre-consented recovery facilities that provide a high level of environmental protection, social safeguards, and transparency. The approach would have the added benefit of allowing limited government resources to focus on other shipments that may present a greater risk of mismanagement. In short, the convention could continue to keep wastes from going to the wrong place while making it easier for companies and

governments to move valuable recyclables to the right place.

Parties should also modernize the PIC procedure to achieve reinforcing goals of environmentally sound management, increased transparency, and improved trade efficiencies. The Russian proposal is a helpful starting point, but governments should be more ambitious. A treaty concluded more than 30 years ago before the invention of the internet should be able to take advantage of the digitization and trade facilitation mechanisms available today. Business and NGO stakeholders should encourage greater investments by governments in the staff and capacity needed to operationalize a more efficient and transparent control scheme for materials moving in the circular economy.

FINALLY, the parties should confirm once and for all that the convention's definition of waste does not extend to used equipment and components responsibly managed for reuse, including reuse following repair or refurbishment. Most countries share this view already, based on a plain reading of the treaty. Those countries choosing to control imports of used goods for reuse or repair should be free to do so as a matter of national legislation and should share those national preferences with other governments. Parties should focus similar attention on expanding opportunities for the movement of used goods for remanufacture. An approach that would require all parties to prematurely apply a waste definition to used goods suitable for reuse would in many instances divert those products to the waste bin, leading to unnecessary environmental impacts and economic harm.

The Fifteenth Conference of the Parties met initially last July and will reconvene in 2022 to consider proposed amendments to expand the convention. Further decisions on the scope of the treaty will be taken in 2023. Over the course of these meetings, parties will reshape the legal framework governing the classification, recycling, trade, and reuse of products and materials worldwide for decades. Having the United States at the table would help ensure the convention furthers environmentally sound management of wastes while also advancing a more sustainable and circular global economy. **TEF**

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